

Attachment B

Red Hill Tank and Release Detection Upgrade Alternatives Proposal Response to
Comments

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Tank Upgrade Alternatives (Tank Upgrade) Option Comments

General Proposal Comments

Proposed decision document lacks discussion of alternative courses of action – The Regulatory Agencies seek a revised Decision Document that adequately evaluates alternatives and compares the relative environmental benefits/risk reduction of the various options along with other factors to frame the basis for a decision.

The Navy's tank upgrade proposal fails to meet the requirements of Federal and State law – The EPA does not agree that the proposal would lead to an option that violates federal law. However, if the Navy is unable to demonstrate the proposal is protective of human health and the environment, then they may be in violation with state regulations if they continue operation without secondary containment after July 2038.

The Navy's Decision Document suggests the proposed tank upgrade should provide sufficient protection – What is meant by sufficient protection is not clear in the comments. The Regulatory Agencies suggest that sufficient protection is engineering, operational, and institutional safeguards that prevent adverse consequences to the drinking water supply and minimize future releases from the Red Hill facility.

National Security is not a justification for maintaining the presence of the Red Hill tanks – Determining the need for National Security assets is outside of the scope of EPA's or DOH's responsibility.

Reject Proposal / Not 1A (over 50% of the comments)

The Regulatory Agencies should reject the Navy's proposed option 1A for upgrade of the tanks – The Regulatory Agencies are requiring the Navy to revise and resubmit the submitted document, as the Decision Document does not provide adequate justification that the proposed improvements to the tank and leak detection systems are the best available practicable technology ("BAPT"). Therefore, the Regulatory Agencies are instructing the Navy and DLA to conduct additional analysis and submit a revised Decision Document to present a BAPT approach that is protective of the environment.

However, several aspects of the proposal do contain actions that will likely reduce threat to the environment. The Regulatory Agencies are encouraging the Navy and DLA to implement these actions as soon as possible.

The tanks have leaked and will continue to leak under option 1A actions. Many of the actions in the proposal are already occurring independent of the AOC. And more significant actions are not planned and are limited to studies and pilot projects. – The Regulatory Agencies agree that more specificity and clear commitments are necessary for risk reduction actions such as the Navy's mention of continuous leak detection, water treatment, and tank liner improvements. The Regulatory Agencies do believe that many of the ongoing improvements are a direct result of the work required under the AOC. The Regulatory Agencies have and will continue to encourage the Navy to make continuous improvements to the facility and not wait for approval under the AOC.

Secondary Containment

The Regulatory Agencies should require Red Hill to upgrade with secondary containment – The Navy must first demonstrate the relative environmental benefits of each option as well as present a

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discussion on each option's viability. Based on this evaluation, the Navy then selects the BAPT for the Regulatory Agencies' approval. Based on the Decision Document submitted, the Regulatory Agencies believe that the Navy did not provide adequate analysis or justification for their selection. The Navy has only provided generalized statements that there are substantial constructability risks associated with retrofitting secondary containment into the existing tanks.

Therefore, the Regulatory Agencies are seeking greater analysis on design and implementation issues related to a secondary containment retrofit in order to understand how environmental performance of this approach compares with other approaches to safeguarding drinking water supply and quality.

The term "double wall equivalency" needs to be clearly defined – The Regulatory Agencies agree that for the purposes of a proposed tank upgrade decision, the document needs to include a clear definition of what is meant by "double wall equivalency." Underground storage tanks with double walls are typically designed to meet regulatory secondary containment requirements. Secondary containment means a release prevention and release detection system for a tank or piping. Typically, this type of system has an inner and outer barrier with an interstitial space that is monitored for leaks.

The Navy needs to implement the fuel tank advisory committee recommendation to select either the double wall or tank in a tank options – The Fuel Tank Advisory Committee is an important meeting to provide legislators, the public and other stakeholders an update of the work performed and the status of ongoing studies. Although some members of the committee may have concluded that the double wall or tank in a tank option is the best upgrade for the facility, it is not an official determination made by the committee.

Short of relocation, secondary containment is the most protective way to contain a release from a tank and provides the best chance of surviving a catastrophic event – Under certain conditions, such as degradation of the internal liner, secondary containment would likely improve performance. But many other operating conditions need to be assessed in order to understand how secondary containment may perform compared to single containment. The Decision Document does not adequately compare the relative environmental performance among the single and secondary containment options and therefore, is one of the reasons for which we are requiring the Navy revise and resubmit their Decision Document.

Adding a second wall to the inside of the tanks will not stop the corrosion of the outer wall – If double walled tanks becomes the proposed decision, the Navy needs to clearly address how the exterior corrosion will be controlled and managed long-term, and if double wall will be constructed, how the exterior corrosion will impact construction and long term operation and maintenance.

Timeline too long

The process to select upgrade requirements and improve Red Hill is taking too long – The Regulatory Agencies agree that the process to develop Red Hill studies and select plans for improvements is taking longer than anticipated. Progress has been slowed by Federal contracting constraints, personnel turnover, and quality issues with studies. However, many risk reductions actions have already been put in place at Red Hill in response to the AOC process and public stakeholder concerns. For example, repair quality assurance and tank monitoring during the fill process after repairs has been significantly improved to prevent the failures that contributed to the size of the 2014 release.

Implement improvements sooner than 28 years – The AOC indicates that all tanks in operation will deploy Regulatory Agencies’ approved BAPT by September 15, 2037. Thus, the Regulatory Agencies are also concerned about the extended time frames the Navy is suggesting to implement a tank upgrade option and we will be working diligently with the Navy to implement BAPT at Red Hill as quickly as practicable.

It should be noted that the Regulatory Agencies are working with the Navy to institute numerous risk reduction improvements at Red Hill on an ongoing basis. Changes to the tank vessel itself is just one of many issues being evaluated for risk reduction improvements. In 2014, the leak was primarily caused by human error. Many changes have already been implemented to reduce chances that human error will cause a significant release during tank filling and operations.

Risk Assessment and TIRM

The current tank inspection, repair, and maintenance (TIRM) protocols are not sufficient to address risk – The Regulatory Agencies continue to instruct the Navy to study their TIRM and propose changes in order to improve its efficacy in managing risk and strive for continuous improvement. For instance, the Regulatory Agencies in our *Response to Corrosion and Metal Fatigue Practices, Destructive Testing Results Report, Red Hill Bulk Fuel Storage Facility (Red Hill), Joint Base Pearl Harbor-Hickam, Oahu Hawaii*, dated March 16, 2020 letter in response to the Navy’s *Corrosion and Metal Fatigue Practices, Destructive Testing Results Report, Red Hill Bulk Fuel Storage Facility* report dated July 7, 2019 (“Destructive Test Report”), are seeking improvements on the non-destructive examination (NDE) process, an integral part of the TIRM protocol. While important, TIRM is only one of several risk management aspects of the Red Hill risk management practices that are a focus for improvements.

The Navy neglects to consider tank degradation – The Regulatory Agencies agree that tank degradation (operational life of the tanks) needs to be considered in the decision-making process. The Navy should do a more thorough analysis of how potential degradation in the future will impact tank performance.

The Navy’s Proposed Tank Upgrade Decision is inconsistent with their risk assessment – The Navy’s Phase I risk assessment provided limited insight into risk at the facility. Further risk assessment is ongoing. However, some of the insights gained from the Phase I assessment have been used to develop mitigation measures described in the Decision Document such as decommissioning of the smaller tank nozzles. The Regulatory Agencies agree that the Proposed Decision Document should address and incorporate findings from all studies that have been performed under the AOC, which is one of reasons that the agencies have found that the document requires revision and resubmission.

The Navy’s risk assessment provides release probabilities that justify rejection of proposal – The Navy’s Risk Assessment is based on infrastructure and operations that were in affect as of July 27, 2017. The Regulatory Agencies agree that for comparison purposes, having the identified component failures described in the Navy’s Risk Assessment, with a description of the improvements made and proposed, and how the corresponding actions have or will reduce potential risk and release probabilities for future releases, would be useful.

Tank tightness testing was not effective because the 2014 release occurred –

Tank tightness testing in general is an effective method of release detection, but only during static fuel storage conditions.

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During the 2014 release, Tank 5 was in the process of being filled with fuel **after the repairs were completed**. Tank Tightness testing cannot be done during dynamic filling. The flaw in repairs leading to the leak was discovered during the filling process as the tank was being brought back into service. At that time, the filling process did not have adequate safeguards in place.

The Navy has since updated their filling and return to service procedures, with the addition of incremental filling, fuel level stabilization, and multiple tank tightness testing at multiple stages.

Shut Down the Facility

The Regulatory Agencies should require relocation of the Red Hill tanks / the Regulatory Agencies should require shutdown of the tanks – The objective of the AOC is to conduct studies to guide improvements to the Red Hill Facility to reduce risk of impact to the environment. The Navy has expanded the tank upgrade options to include new tanks at a different location.

Under Hawaii Revised Statutes 342L-9 Emergency powers & procedures, the governor or director of health can take immediate action in response to an imminent peril to human health or the environment if the situation at Red Hill were to ever meet this criterion. In addition to these emergency powers, environmental regulatory agencies are provided the authority under federal and state law to regulate activities that present environmental risk by requiring monitoring, permits, inspections, testing, and response plans designed to adequately protect the environment. Cost of environmental compliance along with liability can also play a role in facility owner's decision to shut down or relocate. The Regulatory Agencies have commented on the Navy's cost analysis of the tank upgrade options and have requested that it be revised and resubmitted.

Tanks should not be put in strategic ready reserve and should be retired - Temporary closure rules would apply to Red Hill Tanks, and they would remain subject to regulatory requirements while temporarily closed pursuant to Hawaii Administrative Rules 11-280.1-70.

Environmental Concern

Regulatory Agencies required Navy to compare relative environmental performance of each Tank Upgrade alternative which was not done – The Agencies agree that an in-depth comparison of relative environmental performance of all tank upgrade alternatives is necessary in order to determine the appropriate alternative.

The proposed tank upgrade decision should have compared environmental performance during all modes of operation and from different initiating events – The Regulatory Agencies agree that a more thorough comparison of alternatives during all modes of operation and from different initiating events is needed to inform decisions.

Proposal cannot rely on treatment plant that does not exist and no timeline or commitment to build. Treatment should be last resort. – The Regulatory Agencies agree that a treatment plant is a last resort, but we do not object to the construction of additional safety (contingency) measures to protect consumers of the drinking water. The Regulatory Agencies agree that in order to rely on a treatment plant as a contingency measure, the treatment system needs to be in place.

Upgrades that only detect releases is not enough to protect sole source aquifer – Release detection is a critical component of an environmental protection strategy because it can significantly limit the size and

duration of a release by early detection that will allow for mitigative actions. The Regulatory Agencies agree that release detection is only one component of an overall environmental protection strategy in managing a fuel storage facility, and that other components such as risk mitigation (design and operation) and maintenance, are also important factors in identifying the BAPT for this facility.

Comments expressed concerns that proposal comes before final CSM, GW model, fate and transport model, and further Risk Assessment – The AOC requires the Navy to seek continuous improvement of the facility and reassessment of the Tank Upgrade Alternatives at least once every five years as inspections and repairs are made to the next set of tanks. Although more information can improve decision making, taking actions sooner to reduce risk is also desirable. Therefore, the Navy and the Regulatory Agencies need to balance how and when decisions are made to strive for continuous improvement.

The Navy does not acknowledge the groundwater monitoring network near the Red Hill tanks is limited so the assessments of tank upgrade alternatives needs to account for monitoring limitations – The Regulatory Agencies agree that uncertainty, including uncertainty related to the efficacy of the groundwater monitoring network, need to be taken into account during decision making related to the proposed tank upgrade decision.

Relocation

The Decision Document does not make the argument that the tank within a tank and relocation options are impractical – The Regulatory Agencies agree that insufficient information is presented to conclude a tank within a tank option would be impractical (see Attachment A). Relocation of the fuel is not an upgrade option to the current system but could be a long-term fuel storage approach pursued by the Navy if continuing to upgrade and maintain the current facility can no longer be done effectively.

Relocation is only option that protects Oahu Drinking water – Although relocating fuel storage would ultimately eliminate the risk of fuel released from these tanks in their current location, the tanks are expected to continue to operate for the immediate future. Therefore, actions over the short term to reduce risk are very important in an overall risk management approach for the Red Hill Facility.

Moving the tanks to an area where a release could potentially impact the shore is not acceptable – However, Hawaii Revised Statutes, 342L-4.5, states, “(a) The department shall not issue a permit for a new underground fuel storage tank within one hundred yards of the shoreline; provided that a permit may be issued by the department for purposes of repairing or replacing an existing underground fuel storage tank...(c) Beginning January 1, 2045, no person shall operate an underground fuel storage tank within one hundred yards of the shoreline, and no permit for an underground fuel storage tank within one hundred yards of the shoreline shall be renewed.”

The alternative locations study referenced in option to remove fuel by 2045 should be cited in the proposed decision – The Navy’s proposal of secondary containment equivalency or relocation by 2045 lacks detail. The Regulatory Agencies are seeking clarification.

Other TUA Alternative

Encourage the use of polymer coatings – Polymer tank coatings can be an effective tool to reduce interior corrosion if the coating is applied effectively but would not directly address backside corrosion of the steel tank lining. The Navy is currently using coatings in the lower dome and repair areas, such

as welds, which may reduce risk from corrosion and seepage due to weld porosity or small cracks. The Navy is considering a pilot test to apply coating on majority of the interior of the tanks. In our response, the Regulatory Agencies are requesting clarity and additional information on their pilot proposal.

Cost

The Proposed Decision is the least expensive option and least protective of options studied – The Regulatory Agencies acknowledge that the Navy proposal appears to be the least expensive option, but the Navy has not provided a comprehensive comparative cost analysis that considers the operational life of the tank options, nor a comprehensive comparative analysis under all operational modes to compare degree of environmental protection. The Regulatory Agencies are seeking revisions to the Decision Document to include this information.

Do not provide leniency if upgrade costs are too high – The Regulatory Agencies will not approve a plan that does not adequately mitigate risk to the drinking water supply. If the cost to achieve adequate protection is deemed by the Navy to be too high, then the Navy can choose to close the facility.

Release Concerns

The Regulatory Agencies should take action to address the concern that a catastrophic release can occur due to condition of the tanks – The Regulatory Agencies are requiring further evaluation on how this tank system will perform in the event of a seismic event and other plausible initiating events that could cause structural failure of the tanks or impacts to other features, such as nozzles, valves and piping. These issues will continue to be investigated as a part of the Section 8 work on facility vulnerabilities.

The likelihood of chronic and potentially catastrophic releases is unacceptably high and cannot be mitigated by actions described in the proposal – The Regulatory Agencies agree that the Decision Document does not clearly describe how the proposal adequately addresses risk from the range of potential releases. Further analysis is needed to identify appropriate mitigation measures for the range of potential future releases.

There is a greater concern over catastrophic releases than smaller releases. There should be a public warning of a catastrophic release, a disaster recovery plan, and a plan to assure drinking water safety – We agree that emphasis needs to be focused on prevention of damage due to potential catastrophic releases. And even though the probability may be low, consequences of a catastrophic release can be much greater. We agree that the Navy needs to have a mitigation plan for catastrophic releases in order to assure that drinking water quality and availability is not impacted by a catastrophic release at Red Hill.

Not enough known about fate of releases to justify status quo practices – The Regulatory Agencies agree that status quo practices are not justified, and improvements are needed. Numerous changes to practices have already occurred since the 2014 release. The Regulatory Agencies have instructed the Navy to examine a range of release scenarios. Given the very complex geology at Red Hill, a limited ability exists to determine the precise 'fate' of releases; however, there are several magnitudes of releases that should be examined for their potential fate and transport. We agree that further analysis is needed to evaluate the consequences of a range of release scenarios and identify appropriate mitigation measures.

Pathways and rate of movement of releases cannot be predicted – The Regulatory Agencies agree that it is not possible to predict exactly how future release will move through the environment. But the

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ongoing efforts to collect data and study the environment is meant to identify the potential range of possibilities, including the more likely and less likely scenarios.

The Proposed Decision does not meet the zero future release standard – The goal is zero releases from all fuel storage facilities, not the standard. The Regulatory Agencies and the Navy are striving to meet a zero-release goal.

At least 200,000 gallons of fuel have been released at Red Hill – The total fuel loss from the facility from when the tanks started operating in the 1940s to present cannot be accurately determined. Environmental data, anecdotal operational reports describing fuel loss prior to promulgation of environmental regulations, along with contemporary release reports all have a high degree of uncertainty. The amount of residual fuel that is trapped in the subsurface below the tanks is also very difficult to determine due to uncertainty associated with naturally attenuation, including dispersion and degradation.

Use of tanks beyond service life presents a danger to drinking water supply – The Decision Document did not discuss service life of the facility, which is one of the comments provided by the Regulatory Agencies. The document mentions that the Navy intends to complete an asset study, which will identify the remaining “life” of the existing tanks. This information, as well as the anticipated operational life of each of the other TUA options, is needed to fully assess the options.

The primary concern of Honolulu residents is proximity of fuel to a primary drinking water aquifer – The mission of the Regulatory Agencies is to protect human health and the environment; therefore, our mission is also to protect drinking water from potential pollution sources. We recognize the proximity of the Red Hill Tanks over the drinking water aquifer and therefore, the Regulatory Agencies’ goal is to assure adequate prevention and mitigation of risk from the underground storage tank system.

Spills from Red Hill are difficult if not impossible to cleanup – The Regulatory Agencies agree that due to the geologic setting at Red Hill, cleanup is extremely difficult. Therefore, greater focus on prevention and mitigative measures are preferred.

Limited ullage to move fuel from leaking tank is significant risk factor – The Regulatory Agencies agree that the Navy should have adequate processes, infrastructure, procedures, and training to rapidly respond to leaks and reduce potential damage. This includes available ullage to drain a leaking tank.

Human error including reluctance to report problems to superiors is a concern – The Regulatory Agencies recognize human error contributed to the 2014 release both at the tank repair and operational levels. The expectation is that the Decision Document will address human factors as a contribution to risk, in its overall strategy.

Release Detection Concerns / NDE

The current Non-destructive examination (“NDE”) process is unreliable – The Regulatory Agencies agree that, based on the destructive testing study, further work is needed to study the reliability of the Navy’s NDE process and seek opportunities for improvement. The NDE shortcomings appear to limit the ability to identify smaller scale corrosion defects that could lead to emerging small-scale releases. The Regulatory Agencies acknowledge that NDE will never be 100% accurate, so other layers of protection such as aggressive leak detection and leak response and/or secondary containment are likely necessary as part of an option that relies on NDE to assure tank liner integrity.

Corrosion mechanisms creates reliance on non-destructive evaluation (“NDE”) to inspect liner – The Regulatory Agencies agree. Due to the way Red Hill is constructed, the only way to investigate the condition of the exterior of the steel liner is using NDE.

Tanks do not meet corrosion protection requirement due to gap between steel liner and concrete in areas – The Navy’s “Red Hill Bulk Fuel Storage Facility Destructive Testing Results Report, AOC/SOW Section 5.3.3,” dated January 7, 2019 identified some void space between the steel liner and the concrete structure in about eight of the ten coupon sample locations. The presence of moisture was also noted on the exterior portion of the steel liner on about five of the ten coupons. The Regulatory Agencies will work with the Navy to further investigate potential causes for corrosion and evaluate potential options for addressing this concern.

The heavily redacted report on leak detection does not allow for the public evaluate if leak detection meets requirements – EPA-The Regulatory Agencies continues to work with the Navy to make as much information as possible available to the public in order to have transparency. Redactions are used to protect national security, trade secrets, and to assure integrity of future procurement. Stakeholders with subject matter experts on these leak detection technologies may be able to gain greater access to information by entering into non-disclosure agreements.

Nozzle decommissioning for smaller nozzle is already approved, but larger nozzles present larger risk that is not being addressed – The Navy suggests that risk reduction on the larger nozzle can be adequately addressed via improved internal inspections using NDE technology and human visual inspection, but the Regulatory Agencies are seeking clarification and justification from the Navy of the proposed mitigation measures in a revised document.

Release detection is only reactionary and does little to address concerns regarding fuel above drinking water aquifer – Although release detection identifies releases of fuel from the tank system, aggressive release detection and response can limit the magnitude of a release.

Environmental

Water Security should not be compromised by Red Hill – The Regulatory Agencies agree that the availability of drinking water on Oahu should not be compromised by the Red Hill facility. The Regulatory Agencies believe that the Decision Document should clearly and defensibly demonstrate how the actions and safeguards proposed will guarantee water quality and availability for consumers on Oahu.

The Regulatory Agencies should require the Navy to clean up past contamination at the facility – When an underground storage tank leaks, the typical regulatory approach is investigation and cleanup of the release. In response to the 2014 release at Red Hill, the Regulatory Agencies took an alternative approach to not only require investigation and assessment of the 2014 release but also improvements to the facility to minimize future releases. The facility's unique construction, terrain, and extremely complex geologic setting does not allow for typical cleanup activities. Fortunately, the 2014 release, although unacceptable, has not had significant impact to drinking water quality. The Navy recently submitted the “Investigation and Remediation of Releases Report, Red Hill Bulk Fuel Storage Facility” dated March 25, 2020, which discusses their plans for remediation of the 2014 release as well as future releases. The Regulatory Agencies are currently reviewing this document.

The Groundwater Modeling being done by the Navy is flawed – Groundwater modeling work is ongoing. The Navy recently submitted a report describing their multi-model approach to flow modeling titled, “Groundwater Flow Model Report” dated March 25, 2020. The objective of the multi-model approach was to create several models to better account for uncertainty in this very complex setting. The Regulatory Agencies are currently reviewing this document.

The environmental modeling efforts are deficient – Accurately modeling groundwater movement at the scale of interest for the Red Hill project is very challenging due to the complexity of the subsurface and data density. Continuing data collection and modeling are improving the utility of this effort, but the Regulatory Agencies will not inappropriately rely on the modeling effort to guide decision making.

Navy is producing-creating models to produce preferred outcomes – Models are interpretation of data. The Regulatory Agencies have and will continue to review the modeling developed by the Navy and will make our own interpretations that will help guide the Regulatory Agencies' decision making.

The Navy unrealistically assumes large storage capacity of vadose zone, no preferential groundwater flow pathways, high biodegradation rates, and recent releases have not reached groundwater – The Navy's current assumptions relating to vadose storage capacity, existence of preferential groundwater flow pathways, biodegradation rates, and whether or not fuel has reached the groundwater are currently under review by the Regulatory Agencies as part of the review of other deliverables required by the AOC.

Navy CSM is deficient in characterization of features and conditions such as hydraulic gradients and aquifer properties of preferential flow and saprolite – The Hawaii Department of Health reiterated in the letter, “Response to Conceptual Site Model, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, Oahu Hawaii,” dated March 30, 2020 that, “we continue to disagree with fundamental conclusions made in the 2019 CSM.” The Regulatory Agencies recognize that the CSM continues to evolve as new information is obtained. Work completed as part of another AOC deliverable, the “Groundwater Flow Model Report” dated March 2020, that further refines the CSM is currently being reviewed and evaluated by the Regulatory Agencies.

Improve monitoring of groundwater, vapor, and improve release detection – The Regulatory Agencies agree. Many of the improvements already made in these areas since the 2014 release are documented in the Decision Document, along with extra proposals that are under consideration by the Navy. Additionally, the Regulatory Agencies are recommending even more improvements, listed in Attachment A.

The Regulatory Agencies should seek input from USGS, USACE and BWS on adequate monitoring network – The Regulatory Agencies have been and will continue to seek input on the groundwater work from experts from USGS, BWS, Department of Land and Natural Resources, University of Hawaii, as well as our own experts and consultants.

Treating drinking water does nothing to alleviate concerns about long-term health and environmental impacts of permanently contaminating Oahu's drinking water with fuel – The Regulatory Agencies agree that the solution at Red Hill should not require the need for a drinking water treatment system. But treatment should be considered as a safeguard or contingency measure for low probability yet high consequence events (e.g. catastrophic failure of tank, pipeline, or nozzle).

The Navy's interpretation of existing data and analysis are not conservative, often unsupported, and should be rejected – Although the data collected by the Navy, for the most part, has been very useful to help guide further work and decisions, the analysis and interpretation of this data by the Navy does not always match that of the Regulatory Agencies. The Regulatory Agencies have provided multiple comment letters to the Navy on their environmental work. The Regulatory Agencies will continue reviewing new information as it comes in and will make our own interpretations that will help guide the Regulator Agencies' decision making.

Hawaii Regulations

State law requires USTs to be upgraded and operated to prevent releases for operational life of tank or tank system – Prior to July 2018, Hawaii UST regulations required owners and operators of field constructed tanks to comply with release reporting, investigation and confirmation of releases, release response actions, and closure requirements. In July 2018, the Department of Health revised their UST regulations to also require underground storage tank systems with field constructed tanks and airport hydrant fuel distribution system have: release detection, spill and overfill protection, financial responsibility, operator training, a permit, -and for these tanks and piping installed prior to July 15, 2018, must be provided with secondary containment or a design which the director determines is protective of human health and the environment by July 15, 2038.

Allowing any amount of fuel released from the Red Hill tanks violates Hawaii law and fails to comply with the AOC – Neither Hawaii law nor the AOC permit fuel releases. The goal of the Regulatory Agencies' regulations and the AOC is to prevent future releases.

AOC

Do not extend the upgrade deadline in the AOC – The Regulatory Agencies do not have any intention to extend the deadline at this time. The Regulatory Agencies seek improvements to the tanks as soon as practicable. But the Regulatory Agencies also need to balance the assurance that improvements are done in a way that is meticulous and avoids mistakes that could happen if the work is rushed.

Do not provide extension of time to relocate fuel. At Point Loma, California and Manchester, Washington State the Navy was able to address issues with tanks much faster – The Red Hill facility cannot be directly compared with the tank facilities in California and Washington State. Red Hill is a unique facility, with very different issues than what was seen at these other locations. Red Hill is much larger, the tanks are constructed much differently, and the alternatives to Red Hill are much more limited due to land use and availability. The Regulatory Agencies are urging the Navy to move forward and take actions to reduce risk.

Data and tests collected since the AOC was signed affirm the concerns expressed in April 2015 – The Regulatory Agencies agree that much of the information collected affirms our general understanding of issues and risk at Red Hill, but the work has been very useful to further identify risk drivers and risk mitigation options.

The AOC legitimatizes non-action – The AOC has been an important tool to get the Navy to conduct studies and analysis to inform decisions on where to reduce risk at the facility. Although an overall tank upgrade decision has not yet been made, many actions have already been taken to reduce the risk of future releases at the facility.

Additional

Above Ground Storage Tank ("AST") American Petroleum Institute ("API") standards are not appropriate for Red Hill Tanks – The Regulatory Agencies agree that the API Standards cited by the Navy were developed as inspection, maintenance and repair guidelines for standard above ground storage tanks. The Navy modified these standards in order to create a unique inspection, repair, and maintenance procedures for the Red Hill tanks. The Regulatory Agencies continue to evaluate the Navy's procedures to identify areas for improvement.

Children have had health impacts from Red Hill Tanks – Based on the environmental monitoring at Red Hill and surrounding wells, we have no evidence of any potential for exposure from the environmental conditions at Red Hill.

Navy should trade Waiawa wells for Moanalua and Halawa wells – This is outside of the scope of the AOC and authority of the Regulatory Agencies.

Navy should utilize their top experts to come up with solution at Red Hill – The Regulatory Agencies believe the Navy is using their top expert engineers who are responsible for fuel storage to improve conditions at the Red Hill Facility. Additionally, the Regulatory Agencies are utilizing internal and contracted experts to oversee the Navy's effort.

The Hawaiian creation story is important on framing the value of the land and water – The Regulatory Agencies acknowledge this consideration, and it is our goal to ensure protection of our environment.

Install reinforced concrete spillways under tanks – Numerous experts explored a very large range of options to improve the tanks. Unfortunately, construction of a bathtub-type secondary containment under the current tanks in the basalt was deemed impracticable due to extreme complexity and cost involved in mining out a space below the tanks.